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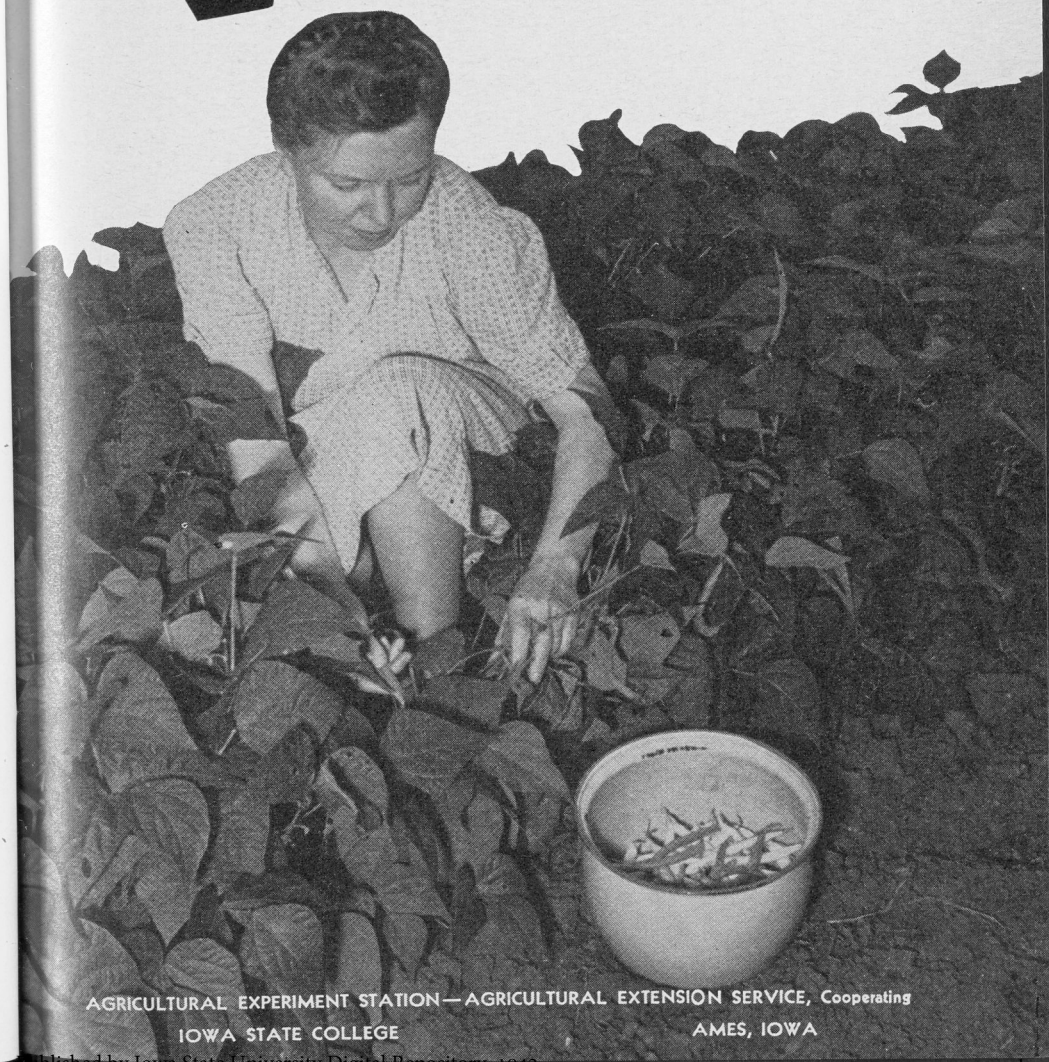
VICTORY VEGETABLE GARDEN



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Victory Vegetable Gardens

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SIZE AND LOCATION OF THE GARDEN

The farm garden may easily occupy ½ acre and supply enough vegetables for a medium-sized family the year around. The garden on the city lot necessarily will have to be smaller, but by intensive methods of cropping may be made to produce enough fresh vegetables during the growing season for a small-sized family. Farm gardens are often too small for the needs of the family, because the labor required by a larger garden is thought to interfere with farm duties. Using field methods of tillage, the size of the farm garden can be increased with no increase in labor.

Many farm gardens should be relocated because continuous cropping without adequate rotation has reduced yields and quality of the vegetables. Soils for vegetable crops should be high in organic matter. The easiest way to secure this is through the application of animal manure or the plowing under of a green manure crop, preferably a legume. A good plan for the farm vegetable garden would be to plant an area in soybeans or other legumes equal to that planted to vegetables. The next year plant the vegetables on that portion of the garden in which the green manure was grown.

Select a level site or one with a gentle slope, avoiding steep slopes because small seeds and seedlings easily wash out with heavy rains. North and east exposures are preferable since they do not dry out as readily and are cooler. Protection from winds is always desirable, but of course vegetables will not grow well close to tree rows or in the shade of buildings.

SOILS

Most Iowa soils may be made suitable for the home or farm garden.

Light or Sandy Loam—These soils warm early in the spring, mature crops quickly, are easily tilled and do not compact after rains or from tramping. Root crops such as carrots and potatoes will be smoother and more attractive when produced on light soils. These soils, however, are often deficient in plant food and require considerable fertilizer. They dry out rapidly, and if there are no provisions for watering, the vegetables may suffer.

Heavy or Clay Loam—The heavier types of soil warm slowly in the spring, are relatively fertile and usually productive, but they are more difficult to work, and they mature crops later.

Peat or Muck Soil—Some garden vegetables are not adapted to these soils; hence, they are not good general garden soils. However, they are well adapted to the production of potatoes, onions, carrots, beets, cabbage and other cool soil crops. They are high in nitrogen and generally deficient in phosphates and potash so that the application of commercial fertilizers is necessary to balance the soil fertility. Peat and muck soils require skill in management, and most operators will have more successful gardens if a loam is chosen.

FERTILIZERS

The most economical means of supplying nitrogen on farm gardens is through the use of barnyard manure and the plowing under of legumes. Manure is usually available for the farm garden and should be used as it is the best general vegetable crop fertilizer. If available, 5 to 20 tons to the acre each year are not too much. Manure makes a light type of soil more retentive of moisture, furnishes plant food and tends to make a heavy soil more friable, porous and easier to work. As manure is low in available phosphates, it should be supplemented with superphosphate.

Poultry manure, if entirely free of litter, should be used sparingly because it is apt to burn the plants. Poultry manure is valuable for garden purposes, but a ton per acre broadcast is equal in plant food content to 5 or 6 tons of horse manure which contains litter. Sheep manure, free from litter, is not as rich as poultry manure but contains more plant food than horse manure. Cow manure is of high value but contains more water and less plant food than any of the other animal manures. Because of its slow fermentation it is valueless for hotbed work.

It is advisable to turn under animal manures immediately after spreading on the garden.

Where sufficient land is available, part of the garden should be planted each year to a green manure crop to plow under. Some of the early-maturing vegetable crops can be followed by soybeans to be turned under in late summer and fall.

Where manure is not available, commercial fertilizers should be used. Two good formulas are 4-12-4 or 4-16-4, 500 pounds per acre. This amounts to about 1½ pounds of fertilizer per 100 square feet. The fertilizer should be broadcast just previous to spading or plowing the soil in the spring.

Certain crops and soil conditions require specialized fertilizer treatments. Soils which have been improved by plowing under leguminous green manures should be fertilized with 300-600 pounds per acre of superphosphate to produce maximum crops of sweet corn, tomatoes and potatoes. Onions on peat or muck should be fertilized with 500-700 pounds of 0-20-20 and potatoes, 500-700 pounds of 0-9-27 formula per acre. Sweet potatoes on sandy soils should be treated with 3-9-18 fertilizer at the rate of 500-600 pounds per acre. Melons and sweet corn on these sandy soils should receive 500 pounds of 4-8-6.

Most vegetables do better on neutral or slightly acid soils. It is difficult, however, to make a general recommendation for liming because many vegetable crops differ in their reactions to lime. Potatoes, for example, should not be planted in high lime soils as scabby potatoes will result. On the other hand asparagus should not be planted in acid soil. Occasionally, however, lime is needed in a garden soil and a test may be helpful. When considerable quantities of manure are turned under each year, it may be necessary to lime the soil every 5 or 6 years. Ground limestone is the most economical form to use, but on the small backyard garden, hydrated lime or air-slaked lime may be used if crushed limestone is not available.

PREPARATION OF THE SOIL

Thorough, deep plowing or spading is necessary for the best growth of all vegetable crops, especially root crops. Where small seeds, such as lettuce, radish, spinach, etc., are to be sown, the ground should be worked into a fine state of tilth. In a small garden, this can be done with a rake after spading or plowing and harrowing. In a large farm garden, the use of a plank drag will be found to be satisfactory for surface finishing. This can be made from three 2 x 12-inch planks 8 to 10 feet long. When the planks are fitted together so that they overlap and are pulled with a team, a large area can be covered in a very short time.

PLANTING

Where horse-cultivation is used, 3 to 3½ feet is the standard width between rows for more than half of the common vegetables, including beans, peppers, eggplant, cabbage, sweet corn and potatoes. Rows of this width allow ample room for the use of horse-drawn equipment. When space is limited and hand-cultivation is used, the rows may be spaced 2 to 3 feet apart. Vegetables with small tops and a narrower spreading root system such as onions, lettuce, beets, radishes and carrots can be planted in rows 12 to 18 inches apart for hand-cultivation and 2½ feet apart for horse-drawn cultivation. Vine crops such as melons, cucumbers, squash and pumpkins should be spaced from 4 to 12 feet, depending on the kind of crop and the variety.

Hardy or frost-tolerant vegetables, including beets, cabbage, carrots, mustard, chard, peas, spinach, lettuce and radishes, should be planted as early as soil conditions will permit (April 1-15) as they are not easily injured by light freezing or frosts. Potatoes also should be planted about the same time. Where started plants are used, as with peppers, eggplant, tomatoes and sweet potatoes, set after danger of frost is past. Seeds of warm-season crops, including beans, pumpkins, squash, cucumbers and melons, likewise should not be planted until danger from frost is over.

Depth of planting depends on size of seed and type of soil. The same seed should be planted deeper on a light sandy soil than on a heavy loam. When the upper surface of the soil is ideally moist, plant at a depth four times the diameter of the seed; if the surface is dry, plant twice as deep. Opening a furrow with a hoe and dropping and covering seed by hand is satisfactory but a mechanical seeder is more economical with seed and will plant and cover the seed more uniformly. When hand planting, level and firmly press the soil above the seed. In transplanting cabbage, tomatoes, pepper, eggplant and celery to the field, allow as much soil as possible to adhere to the roots. Plants will suffer less from transplanting if disturbance of the root system is kept at a minimum. If seedling plants are grown in pots or paper bands, their growth will not be seriously checked when they are transplanted to the field.

Holes for plants in the garden should be dug just before planting to prevent the soil from drying out. It is advisable

to use a little water in the holes at transplanting or to water the plants thoroughly immediately after setting them. When possible, transplant the plants on a cloudy day or just before nightfall. If it is necessary to transplant them during hot weather, the plants must be shaded from the hot sun until they are established. Be sure to firm the soil well around the newly transplanted plants.

CULTIVATION

The most important function of cultivation is weed control. Weeds are most easily killed when small. If weeds attain more than seedling size, they compete seriously with the vegetables for soil nutrients, water, light and air. Cultivation as the weed seedlings emerge is the most efficient way to destroy them. Shallow cultivation is always preferable to deep cultivation. Deep cultivation destroys the vegetable roots, checking growth and reducing yields and quality. Although cultivation is necessary only when weeds are present, the average farm garden is more likely to suffer because of too little rather than too much.

Thinning is often necessary with seeded vegetables in home garden practice. The weakest plants should be discarded and the strongest left to grow. If thinning is delayed until plants are large, the remaining plants will be relatively weak. Thinning should be done when soil is moist so that the roots of the plants which are left to grow will be disturbed as little as possible.

SUCCESSION OF CROPS

If all the crops that are harvested early, including radishes, peas, lettuce, spinach, onions (from sets), and first plantings of carrots, beets and turnips, are planted together, the ground on their removal may be used for late summer and fall crops. In the experimental gardens at Iowa State College more green and wax beans have been secured from the fall-sown crop (July 15-25) than from the same varieties sown in early May. Chinese cabbage has produced better heads when seed was field sown about July 25, than when grown as a spring crop. Turnips likewise were better when seed was sown about Aug. 1 than when grown as a spring crop. Potatoes yielded better when planted early, April 15, than when planted later.

Two plantings should be made of carrots and beets. The early sowings should be used in the summer. The crop for winter storage should be sown about July 15 to secure more succulent, palatable roots.

Good cultural practices and a program of heavy fertilization are required to obtain proper growth and yields when two crops are grown on the same land in a season.

WATERING

The vegetable garden will benefit from supplemental irrigation almost every year. If rainfall were evenly distributed, 1 inch per week would be enough, but since it is not, water can be applied profitably during dry spells to make up the deficit. When water is used, the soil should be moistened to a depth of 6 inches or more, not merely dampened on the surface. The irrigation should be repeated when the soil again becomes dry. Starting seeds in midsummer may require special watering by sprinkling the surface frequently, sometimes three or four times in a day, in order to obtain good germination and to insure that the newly germinated seedlings are not burned off as soon as they come through the ground.

VARIETIES

Iowa Extension Pamphlet 23, "Victory Home Food Supply," carries a comprehensive list of kinds and varieties of vegetables recommended for home gardens in Iowa, with quantities of seed necessary for a family of four. Space does not permit reprinting in this bulletin. The pamphlet may be secured from any county agricultural agent or direct from Iowa State College.

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